



Hungry Mother Lake Fisheries Management Report 2004



Hungry Mother Lake is a 108-acre reservoir located within Hungry Mother State Park in Smyth County, Virginia. The reservoir has a maximum depth of 32 feet and an average depth of 16 feet. Six miles of shoreline offer a variety of habitats ranging from gentle sloping clay banks to rock bluffs. The water is moderately clear, with visibility ranging from less than three feet in spring to over 10 feet during the summer.

In a typical year the lake is covered with ice from late December through January. Surface water temperatures climb into the 40's during February and the 50's during March. The lake stratifies into several different temperature layers during the summer. A maximum annual surface temperature of about 80 degrees is reached in July or August. During the months of July and August there is not enough dissolved oxygen to support fish life at depths greater than 15 feet. Fall turnover begins in September, and by early December the lake is the same temperature (40's) from top to bottom.

The lake supports self-sustaining populations of largemouth, smallmouth, spotted bass, bluegill, black crappie, rock bass, and common carp. Walleye, musky and channel catfish populations are maintained with periodic fingerling stockings. Grass carp are occasionally stocked to control vegetation. Alewives provide the primary forage for most sport fish in the lake.

Hungry Mother Lake is managed to provide a diversity of sport fishing opportunities. Routine management activities include fish population sampling, fish habitat enhancement and sport fish stocking.

Biologists sample the fish populations in Hungry Mother Lake using an electrofishing boat. This boat delivers a controlled field of electric current into the water. As the boat moves slowly along the shoreline, fish within the current field (approximately 12 feet wide by eight feet deep) are temporarily stunned and can be dipped with a long-handled net. After the fish are removed from the current field they quickly recover and can be released unharmed.

Two types of fish population samples are collected at Hungry Mother Lake. Each year in May the general fish community is sampled. Biologists collect all species of fish and weigh and measure individuals. This sample provides a good annual "check up" for bass, sunfish, and crappie populations. The second type of sampling is targeted toward collecting walleye data. Because walleye prefer cooler water temperatures than bass or sunfish, the May sample doesn't provide a representative measure of walleye abundance in the lake. Sampling in March, April and October provides much better information about the walleye population.

Fish population samples provide lots of information to the biologist, but the relative abundance of a fish species and the size structure of the population are two of the most important pieces of data. By looking at the relative abundance of a particular species through

time, you can determine if a population is stable, increasing or decreasing in abundance. By looking at the size structure of a fish population, you can get a general picture of the sizes of fish present in the fishery.

Black bass populations are doing quite well in Hungry Mother Lake. Largemouth are the dominant bass species and spotted bass, which first appeared in the 1995 sample, are now a close second. There are not very many smallmouths in Hungry Mother Lake, but there are some large ones in the 18 to 20-inch ranges. Black bass relative abundance (number of fish collected per hour of sampling) varies from year to year, but the five-year-average total catch rate (all black bass species) of 64 fish per hour is very good for lakes in Southwest Virginia.

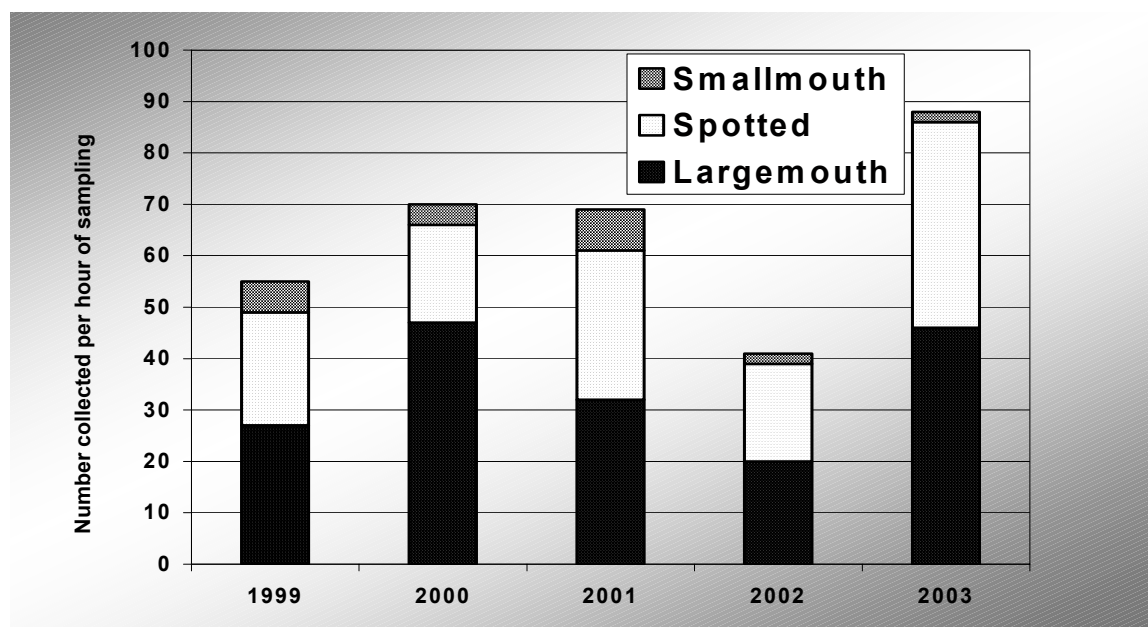


Figure 1. The number of bass collected per hour of electrofishing at Hungry Mother Lake 1999 – 2003.

The size structures of the bass populations are decent. About 20 percent of the largemouth exceed the preferred size of 15 inches. Forty percent of smallmouths, and only 10 percent of spotted bass are longer than their preferred size of 14 inches. There are some larger fish present for the lucky or skillful angler to pursue.

Black crappie abundance has varied in recent years, but the 2003 sample yielded a record catch of 65 crappie per hour (Figure 2). Size structure of black crappie was excellent from 1999 through 2001, but the percentage of crappie over ten inches in length has declined since that time.

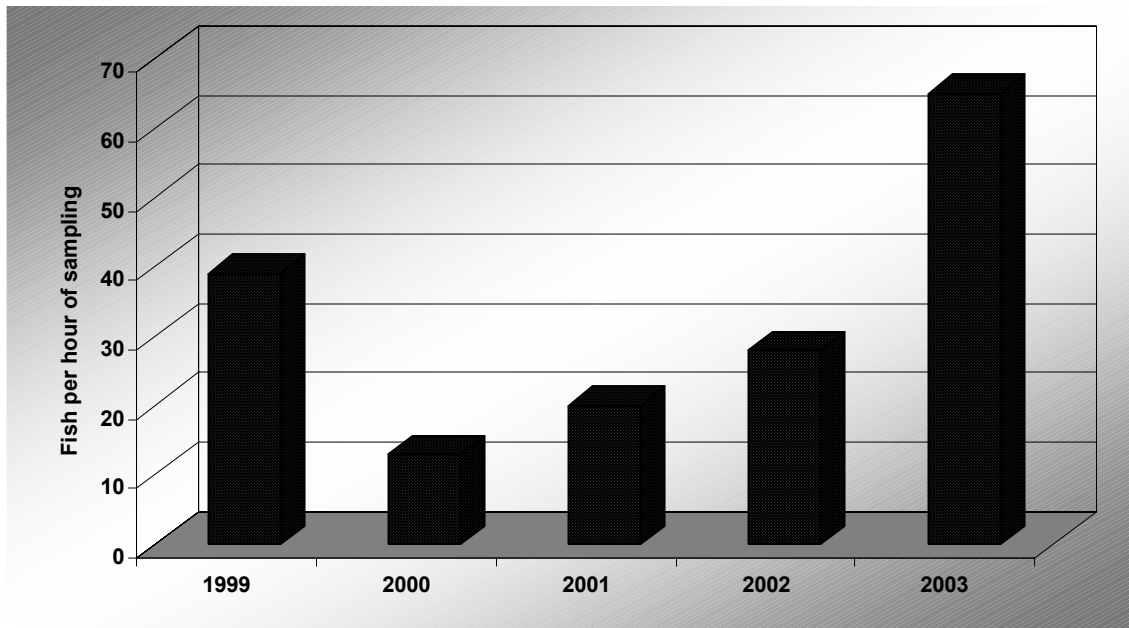


Figure 2. Number of black crappie collected per hour of electrofishing at Hungry Mother Lake from 1999 – 2003.

The sunfish population at Hungry Mother Lake is dominated by bluegills. The bluegill population is slowly increasing in abundance. Size structure of the bluegill population is about average. This scenario is much better than in the past when the bluegill population was overabundant and stunted at small sizes.

The walleye population in Hungry Mother Lake is in fair shape. Relative abundance increased slightly in 2003, but remains relatively stable at about five fish per hour. The size structure of the walleye population is good. Most of the walleyes collected each year range from 16 to 20 inches, with a few fish up to 24 inches. Recruitment of small walleyes has improved in recent years so future fishing should be good.

Several other species of fish including musky, common carp, grass carp, rock bass, hybrid sunfish and alewives were collected. However, the low number of fish collected does not provide enough data to make meaningful comments about the status of these fish populations.

Routine fish stocking maintains populations of walleye, musky and channel catfish, because these species do not have suitable habitat to reproduce naturally. Current stocking levels are 10,800 walleyes, 1,080 channel catfish and 54 muskies per year.

Prepared by: Tom Hampton, Fisheries Biologist with the Virginia Department of Game and Inland Fisheries: (276) 783-4860; thampton@dgif.state.va.us